REMARKS/ARGUMENTS

Applicant's agent appreciates the Examiner's efforts to make the claim numbering set forth in the Office Action of October 27, 2003 correspond to the claim numbering set forth in applicant's Preliminary Amendment of September 26, 2001. Accordingly, the claim numbering and claims addressed in this amendment also correspond to applicant's Preliminary Amendment.

In response to the Notice of Non-Compliant Amendment, applicant reordered the "Listing of Claims" to be in numerical order.

In response to the Office Action in which the Examiner rejected the abstract of the disclosure, applicant amended the abstract to correct several typographical errors. In addition, applicant amended the paragraph on page 7 to correct a typographical error. Applicant also amended claim 15 to add a missing period, amended claims 27, 31, and 42 to remove the word "generic", which had no antecedent basis in the claims, and amended claims 45 and 47 to recite "[t]he node" rather than "[t]he system" in accordance with each claim's parent claim. Finally, applicant canceled claim 8.

In the Office Action, the Examiner also rejected priorly presented independent claims 1, 29, 44, 46, and 48 and dependent claim 49 as unpatentable, 35 USC 102(b) in view of Kay et al., patent 5,247,571, September 21, 1993 (hereinafter Kay). In response thereto, applicant amended claims 29 and claim 46 to clarify that the "central server" and the "application" recited therein, respectively, interface the PSTN and are therefore not elements of the PSTN. Applicant amended claim 44 to clarify that the node recited therein is a "PSTN based node" and that this node includes a system for delivering data "to subscriber devices." Lastly, applicant amended claim 49 to be an independent claim that includes the limitations of claim 48 and correspondingly, cancelled claim 48.

Kay teaches a method for implementing a Centrex using an AIN (Advanced Intelligent Network) architecture. The AIN architecture comprises a plurality of central office switches interconnected through trunk circuits, which are used to carry telephone calls between the switches and terminal equipment (such as phones, modems, faxes, etc.). The architecture also comprises an ISCP and a CCIS signaling network, which network interconnects the switches between each other and to the ISCP. (Kay, column 10 line 27 to column 11, line 9).

Under AIN, when a calling station makes a service request (i.e., goes off-hook) and enters a called number, the originating switch begins by communicating through the CCIS network with the terminating switch that serves the called station, inquiring from this switch

whether the call can be completed to the called station. If the call can be completed, the originating and terminating switches complete the call setup by establishing a telephone connection between the calling and called stations using the trunks circuits that interconnect the switches. (Kay, Figure 3; column 13, lines 16-32). In addition to basic call setup, AIN also allows switches to be programmed to recognize different service triggers for a telephone line. When a trigger applies to a telephone line, the switch communicates with the ISCP to obtain additional call processing information and then uses this information to proceed with the call setup. (Kay, column 3, lines 28-35; column 11, line 20 to column 12, line 32).

In accordance with Kay's teaching for implementing a Centrex, a switch is programmed to recognize that certain of its local lines have an associated Centrex service (i.e., an AIN trigger is associated with the line). When an originating switch detects a service request (i.e., detects an off-hook) on one of these lines, the switch receives the dialed digits from the calling station and then suspends the call. The switch then formulates a TCAP request message for the ISCP requesting that the ISCP provide instructions on how to process the call, and then sends this request message through the CCIS network to the ISCP. Upon receiving the message, the ISCP uses the calling number and/or dialed digits to access a local database in order to obtain call processing data that the originating switch needs to complete the call. The ISCP places the call processing data into a TCAP response message and sends this message back to the originating switch through the CCIS network. The originating switch in turn uses the call processing data to determine the terminating switch that serves the called station and then communicates with this switch via the CCIS network to determine if the call can be completed, as described above. If the call can be completed, the originating and terminating switches complete call setup by establishing a telephone connection between the calling and called stations using the trunks circuits that interconnect the switches. (Kay, Figure 4; column 13 line 33 to column 14, line 16).

Kay's teachings are divergent from claim 1 and fail to teach or suggest the steps of claim 1. Most significantly, claim 1 recites that data is routed from a service application to a subscriber device via TCAP messaging. Importantly, both the service application and subscriber device of claim 1 interface the PSTN network through originating and terminating nodes and are therefore not part of the PSTN network. The only comparable elements in Kay's teachings to the service application and subscriber device of claim 1 are the calling station interfacing an originating switch and the called station interfacing a terminating switch. However, in accordance with Kay, data never moves between calling and called stations using TCAP messaging. Kay only teaches that TCAP messaging is used for communications between PSTN components, or in other words, is used between the

originating and terminating switches in order to establish trunk circuits through which the calling and called stations can communicate and is used between an originating switch and the ISCP in order for the originating switch to obtain call processing data. All data sent between the calling and called stations is through the trunk circuits.

In addition, claim 1 recites that the service application creates a request message that includes both "data and data delivery instructions" and that a terminating node receives this message via the TCAP messaging and uses the enclosed instructions to transport the data to the subscriber device. Applicant's agree that Kay teaches that a calling station will send a "service request" to an originating switch; however, this request as taught by Kay is simply an off-hook indication and is not a message including both data and data delivery instructions as claim 1 recites. In addition, although the calling station also communicates called station dialed digits to the originating switch and that the originating switch may send these digits via TCAP messaging to a terminating switch, Kay fails to teach or suggest that these digits are a message including both data and data delivery instructions or that these digits are ever conveyed to a called station. Furthermore, although Kay teaches that once a call is established, originating/terminating switches convey data through trunk circuits between calling and called stations, Kay fails to teach or suggest that the switches are examining these communications and as such, Kay fails to teach or suggest that the switches are delivering this data according to instructions that are accompanying the data.

In addition, applicant agrees that in response to detecting an off-hook from a calling station the originating switch will contact the ISCP to obtain call processing data and that the switch will subsequently use this data to establish a trunk circuit. While one can possibly view this call processing data from the ISCP as data delivery instructions, these data delivery instructions are not created by the calling station, are not part of a single request message that also includes data from the calling station, and are not conveyed with data to a terminating switch and subsequently used by this terminating switch to deliver data to a called station, as claim 1 recites. Accordingly, Kay fails to teach or suggest claim 1.

Turning to amended claim 29, it recites that in delivering a request message from a central server to a subscriber device, the central server transports the message to a PSTN based node "without establishing a call" and that the PSTN based node then delivers the data to the subscriber device. Because the central server and subscriber device of claim 29 interface the PSTN, Kay's calling and called stations are the only comparable elements to the central server and subscriber device. However, as described above, Kay only teaches a calling station sending data to a called station through trunk circuits, which indicates the transfer is the result of establishing a call, contrary to claim 29.

In addition, Kay fails to teach or suggest that its calling station creates a request message that includes both "data and data delivery instructions," that such a message is ever transported from a calling station to a PSTN based node, or that a PSTN based node delivers data to a called station based on instructions received from a calling station, contrary to claim 29. Again, Kay only teaches a calling station sending to a switch an off-hook indication and called station dialed digits. As indicated, neither an off-hook indication nor dialed digits is a message including both data and data delivery instructions and neither is ever conveyed to called station, as claim 29 recites. Similarly, while the ISCP will send call processing data to an originating switch (i.e., a PSTN based node), this call processing data does not originate from a calling station and is not associated with data from a calling station. Accordingly, Kay fails to teach or suggest amended claim 29.

Turning to amended claim 44, it recites a PSTN based node with a data delivery system that comprises "means for receiving a request message [that includes both] data and data delivery instructions and means for delivering the data to one or more subscriber devices according to the ... instructions." Again, Kay teaches that an originating switch has means for detecting a calling station going off-hook; however, this off-hook is not a request message that includes both data and data delivery instructions as claim 44 recites. Similarly, Kay teaches that an originating switch has means for subsequently receiving dialed digits from a calling station. Assuming these dialed digits are "data", Kay fails to teach or suggest that data delivery instructions accompany this data or that this data is ever delivered to a subscriber device. Kay only teaches that the originating switch conveys these digits/data to the ISCP or to a terminating switch (for the purpose of establishing a trunk circuit). Similarly, assuming the dialed digits are "data delivery instructions", Kay fails to teach or suggest that data accompanies these instructions. In addition, while the originating/terminating switches of Kay convey data through trunk circuits between calling and called stations, Kay fails to teach or suggest that the switches are examining these communications and as such, Kay fails to teach or suggest that the switches are delivering this data according to instructions that are accompanying the data.

It is further noted that while Kay teaches the originating switch receives call processing data from the ISCP and that one can view this call processing data as "data delivery instructions," these data delivery instructions are not part of a single request message that also includes data that the originating switch subsequently delivers to a calling/called station based on the instructions, as claim 44 recites. Kay only teaches that the switch uses the call processing data to communicate with a terminating switch to establish a trunk circuit. Note further that in some cases, Kay indicates that as part of call processing, the ISCP may

instruct an originating switch to further communicate with a calling station by issuing a prompt, such as synthesized speech or tone. (Kay, column 14, lines 26-48, column 21; lines 20-32). Importantly, these communications are still divergent from claim 44. Significantly, while one can possibly view these instructions from the ISCP to the originating switch as "data delivery instructions", Kay fails to teach or suggest that the switch also receives from the ISCP the data (i.e., the prompt) to be communicated to the calling station and as important, fails to teach or suggest that the switch has no "knowledge of the data format" communicated to the calling station, as claim 44 recites. Accordingly, Kay fails to teach or suggest amended claim 44.

Turning to amended claim 46, it recites "a PSTN based node comprising means for receiving data from an application interfacing the PSTN [and] means for distinguishing the data as a type comprising service and implementation information wherein the implementation information describes how to deliver the service information." Again, the only elements of Kay comparable to the PSTN based node and application of amended claim 46 are Kay's originating switch and calling station, respectively. However, as described above, Kay never teaches that the originating switch receives from the calling station data that comprises both service information and implementation information wherein the implementation information describes how to deliver the service information.

Amended claim 46 further recites that the PSTN based node comprises "means for transmitting the data over a packet interface if the data is of the type comprising service and implementation information." While Kay teaches that the originating switch will deliver dialed digits from a calling station over a packet network to the ISCP, these teachings are still divergent from claim 46 because Kay teaches that this determination to send the dialed digits is based on automatic AIN triggers at the switch. Significantly, these triggers do not actuate as a result of receiving data of the type comprising service and implementation information from the calling station, as claim 46 recites. Similarly, while Kay teaches that the originating switch will deliver dialed digits from a calling station over a packet network to a terminating switch, the determination to send these digits is based on normal call processing procedures at the switch and is not the result of receiving data of the type comprising service and implementation information from the calling station. Accordingly, Kay fails to teach or suggest amended claim 46.

Amended claim 49 recites a method executed by a service application for sending data through a PSTN "wherein the service application resides outside the PSTN." The method comprises the steps of creating a message that comprises both the data and "customized delivery options for instructing the PSTN on how to deliver the data," and "transmitting the

message without establishing a call." Kay fails to teach or suggest amended claim 49 for several reasons. First, as described above, Kay teaches that all data sent through the PSTN by a device residing outside the PSTN, such as a calling station, occurs through trunk circuits, or in other words, is the result of establishing a call, contrary to claim 49. Second, Kay fails to teach or suggest that a device, such as calling station, creates a message that includes both data and customized delivery options and that these delivery options are for instructing the PSTN on how to deliver the data. Similarly, while Kay teaches that the ISCP will send call processing data to an originating switch without establishing a call and this call processing data can be viewed as customized delivery options, the ISCP is not a service application that resides outside the PSTN, as claim 49 recites. Accordingly, Kay fails to teach or suggest amended claim 49.

The Examiner rejected priorly presented independent claims 31, 35, and 43 as unpatentable, 35 USC 103(a), over Kay in view of Willis et al., patent 6,385,647 B1, May 7, 2002 (hereinafter Willis). In response thereto, applicant amended claims 31 and 43 to clarify that the central servers recited therein interface the PSTN and are therefore not elements of the PSTN.

Willis is directed at efficiently multicasting data from a source to multiple destinations. Willis notes that multicasting typically occurs through communications networks that comprise the Internet and telephony systems. The problem, however, is that the bandwidth requirements of the multicasted data often exceed the capabilities of these communications networks, making the multicast inefficient. Willis overcomes this problem through the use of a satellite transmission network, which provides for more efficient transmission of high bandwidth data. In particular, a source that needs to multicast data first sends the data to a source computer. This source computer analyzes the data for its size and the distance it needs to travel to the destinations. Based on this analysis, the source computer either continues to route the data through the traditional communications networks (i.e., Internet and telephony systems) or alternatively, through a satellite communications network. In either case, the data is routed over one of these networks to a receiving facility, which then routes the data to the intended destinations. (Willis, column 2, line 17 to column 4, line 35; column 9, line 58 to column 10, line 19; column 20, line 6 to column 22, line 37).

Turning to amended claim 31, the Examiner indicates that Kay teaches all steps except for multicasting, which is taught by Willis. Applicant respectfully disagrees. Beginning with Kay, the only comparable elements to the central server and subscriber devices of claim 31 are Kay's calling and called stations because the central server and

subscriber devices interface the PSTN. Significantly, claim 31 recites that in broadcasting data from the central server to subscriber devices, the central server routes the data as part of a request message to a PSTN based node "without establishing a call" and the PSTN based node then delivers the data to the subscriber devices according to delivery instructions in the message. However, contrary to claim 31 and as described above, Kay teaches that all data sent between the calling and called stations occurs through trunk circuits, or in other words, is the result of establishing a call.

In addition, Kay fails to teach or suggest that a calling station defines a request message that includes both data delivery instructions and data and that such a message is routed from a calling station to a PSTN based node, as claim 31 recites. Again, a calling station will send an off-hook and dialed digits to an originating switch, but this off-hook and these dialed digits are not messages that comprise both data and delivery instructions and more importantly, are not messages that comprise delivery instructions that specify a "list of possible subscriber devices" that are served by the node and that should receive the data, as claim 31 recites. Similarly, while the ISCP will send call processing data to an originating switch without establishing a call and this call processing data can be viewed as customized delivery options, the ISCP is a PSTN-based component and is therefore not equivalent to the central server of claim 31, which central server only interfaces the PSTN.

Willis also fails to teach or suggest the steps of claim 31 alone or in combination with Kay. Most significantly, Willis fails to teach or suggest that elements external to a PSTN network communicate through the PSTN without establishing a call. In addition, while applicant agrees that Willis describes elements that perform multicasting/broadcasting, Willis fails to teach or suggest that any of the described elements, including the source computer and receiving facility, are a *PSTN-based node* that multicasts data, or in other words, are *PSTN-based nodes* that deliver data to one or more subscriber devices based on delivery instructions.

Applicant also disagrees with the Examiner that there is motivation to combine multicasting as taught by Willis with the teachings of Kay. The Examiner makes particular reference to Kay's ISCP and the ISCP's associated database and indicates that the "motivation to combine the 'push' technology from Willis into the Kay network is found within Kay as an obvious form of information dissemination in consideration of the functionalities and means described therein." The only references Kay makes to the ISCP and the ISCP's database are with respect to switches querying the ISCP for call processing information based on a specific call initiated by a subscriber. It is unclear from Kay's teachings what benefit or functionality would be gained from having the ISCP spontaneously

send call processing information to switches, whether it be uni-cast, multicast, or broadcast. Accordingly, Kay and Willis, alone and in combination, fail to teach or suggest claim 31.

Turning to claim 35, the Examiner indicates that Kay teaches all steps except for the incorporation of unified messaging, which is taught by Willis. Claim 35 is novel and non-obvious in view of Kay and Willis for the same reasons as set forth above for claim 31. Again, the "multi-functional server" and "subscriber" of claim 35 interface the PSTN and both Kay and Willis fail to teach or suggest that elements interfacing the PSTN communicate through the PSTN "without establishing a call," as claim 35 recites. Similarly, Kay and Willis fail to teach or suggest an element that interfaces the PSTN (such as a calling station) creating a request message that includes both "data concerning subscriber messages" and delivery instructions "instructing [a] switch on how to deliver such data to a subscriber device" or that such a message is delivered to a PSTN based node from an element that interfaces the PSTN.

Perhaps more importantly however, it is unclear why the use of multicasting as taught by Willis and as suggested by the Examiner would motive one to interface to a PSTN based system a "multi-functional server that receives subscriber messages from the PSTN and Internet" and that then uses the PSTN based system to deliver data concerning these subscriber messages to a subscriber without establishing a call. In particular, neither Kay nor Willis discusses Unified Messaging Services. In addition, because Kay is directed at using AIN mechanisms to trigger call setup and then establishing calls through trunk circuits, the obvious combination of Unified Messaging Services and Kay would be the reception of subscriber messages triggering Kay's system to establish a call and then delivering the messages to a subscriber through trunk circuits, which is not applicant's invention as recited by claim 35. Accordingly, Kay and Willis, alone and in combination, fail to teach or suggest claim 35.

Turning to amended claim 43, the Examiner indicates that Kay teaches all steps except for the step of delivering the data from the service profiler to the wireless device via the wireless network, which is taught by Willis. Again, applicant respectfully disagrees for the same reasons as set forth above for claims 31 and 35. Again, the central server and service profiler of claim 43 are external to the PSTN and both Kay and Willis fail to teach or suggest that elements external to the PSTN communicate through the PSTN "without establishing a call," as claim 43 recites. Similarly, Kay and Willis fail to teach or suggest an element that interfaces the PSTN creating a request message that includes both data and data delivery instructions that are used by a switch to deliver the data or that such a message is delivered to

a PSTN based node from an element that interfaces the PSTN. Accordingly, Kay and Willis, alone and in combination, fail to teach or suggest claim 43.

The Examiner rejected priorly presented dependent claims 2, 12, 17, 18, 25, 37, 40, and 42 as unpatentable, 35 USC 102(b) in view of Kay, rejected priorly presented dependent claims 3-7, 9, 10, 15, 19, 20, 26, 38, 36, 39, and 41 as unpatentable, 35 USC 103(a), over Kay in view of Willis, and rejected priorly presented dependent claims 27, 30, 45, 47, and 50 as unpatentable, 35 USC 103(a) in view of Kay. Each of these claims depends from an independent claim addressed above and is therefore novel and nonobvious in view of Kay and Willis for the same reasons as set forth above.

Since Kay and Willis do not teach or suggest applicant's novel methods and apparatus alone or in combination as set forth in claims 1-7, 9, 10, 12, 35, 36, and 41 and amended claims 15, 17-20, 25-27, 29-31, 37-40, 42-47, 49, and 50, applicant submits that these claims are clearly allowable. Favorable reconsideration and allowance of these claims are therefore requested.

Applicant earnestly believes that this application is now in condition to be passed to issue, and such action is also respectfully requested. However, if the Examiner deems it would in any way facilitate the prosecution of this application, she is invited to telephone applicant's agent at the number given below.

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